What is claimed is:

1. A communication station for transmitting first data and second data, comprising:

an encoder for coding the first data and the second data;

a multiplexer for multiplexing the coded first data and the coded second data;

a transmitter for transmitting the first data and the second data that are multiplexed with each other to another communication station, the first data and the second data being transmitted at a first transmission power level and a second transmission power level, respectively; and

a transmission power controller for receiving transmission power control information from the other communication station and for controlling the first transmission power level and the second transmission power level independently of each other.

2. A communication station according to claim 1, wherein the transmission power control information includes first and second control bits, and

wherein the gain controller changes both a first gain for the first data and a second gain for the second data based on the first control bit, and changes either the first gain or the second gain based on the second control bit.

3. A communication station according to claim 2, wherein the gain controller changes both the first gain and the second gain by a first value and changes either the first gain or the second gain by a second value, the first value being larger than the second value.

4. A communication station according to claim 3, wherein the first value is 1 dB and the second value is 0.1 dB.

5. A communication station for receiving first data and second data transmitted from another communication station, the first data and the second data being transmitted at a first transmission power level and a second transmission power level, respectively, the communication station comprising:

a receiver for receiving the first data and the second data;

a processor for decoding the first data and the second data;

a control information generator for generating transmission power control information based on the first data and the second data received by the receiver, the transmission power control information causing to control the first transmission power level and the second transmission power level independently of each other; and

a transmitter for transmitting the transmission power control information to the other communication station.

6. A communication station according to claim 5, wherein the transmission control information is generated in such a manner as to reduce a difference between a first difference between a required received quality and an actual received quality of the first data and a second difference between a required received quality an actual received quality of the second data.

7. A communication station according to claim 6, wherein the required received quality and the actual received quality of both the first data and the second data are represented by a frame error rate.

8. A communication station according to claim 6, wherein the required received quality and the actual received quality of both the first data and the second data are represented by a signal-to-noise ratio.

9. A communication station according to claim 6, wherein the

transmission power control information includes a first control bit generated based on the first data and a second control bit based on both the first data and the second data, and

the first control bit is transmitted to the other communication station more frequently than the second control bit.

10. A communication station according to claim 9, wherein the first control bit is transmitted at intervals of 1.25 ms, while the second control bit is transmitted at intervals of 80 ms.

11. A communication station according to claim 10, wherein the second control bit is transmitted in such a manner that the first control bit is replaced with the second control bit at intervals of 80 ms.

12. A communication station according to claim 11, wherein the second data is transmitted in synchronization with a start of a frame of the first data.

13. A communication station according to claim 12, wherein the second data is transmitted at a timing corresponding to a portion of a frame other than a header portion or an end portion.

14. A communication station for transmitting first data and second data on reverse-link and for receiving third data and fourth data on forward-link in response to the first data and the second data, the communication station comprising:

a coder for coding the first data and the second data;

a multiplexer for multiplexing the coded first data and the coded second data;

a transmitter for transmitting the first data and the second data that are multiplexed with each other to another communication station, the first data and the second data being transmitted at

a first transmission power level and a second transmission power level, respectively;

a receiver for receiving the third data and the fourth data;

a processor for separating transmission power control information from the third data and the fourth data;

a transmission power controller for controlling the first transmission power level and the second transmission power level independently of each other, based on the separated transmission power control information; and

a control information generator for generating further transmission power control information based on reception states of the third data and the fourth data, the further transmission power control information causing to control the third transmission power level and the fourth transmission power level independently of each other, wherein the further transmission power control information is transmitted together with the first data and the second data.

15. A communication system comprising:

a first communication station for transmitting first data and second data at a first transmission power level and a second transmission power level, respectively; and

a second communication station for receiving the first data and the second data transmitted from the first communication station, wherein:

the second communication station generates transmission power control information based on the received first and second data, and transmits the generated transmission power control information to the first communication station, and

the first communication station receives the transmission power control information from the second communication station, and controls the first transmission power level and the second transmission power level independently of each other based on the transmission power control information.

16. A communication system according to claim 15, wherein the first communication station includes a transmission power controller that controls a first gain of the first data and a second gain of the second data independently of each other, thereby controlling the first transmission power level and the second transmission power level.

17. A communication system according to claim 16, wherein the transmission power control information includes first and second control bits, and

the transmission power controller of the first communication station changes both the first gain and the second gain based on the first control bit by a first value, and changes either the first gain or the second gain by a second value based on the second control bit.

18. A communication system according to claim 17, wherein the first value is larger than the second value.

19. A communication system according to claim 18, wherein the first value is 1 dB and the second value is 0.1 dB.

20. A communication system according to claim 19, wherein the second communication station generates the transmission power control information in such a manner as to make a first difference between a required received quality and an actual received quality of the first data closer to a second difference between a required received quality and an actual received quality of the second data.

21. A communication system according to claim 20, wherein the required received quality and the actual received quality of both the first data and the second data are represented by a frame error

rate.

22. A communication system according to claim 20, wherein the required received quality and the actual received quality of both the first data and the second data are represented by a signal-to-noise-ratio.

23. A communication system according to claim 20, wherein the second communication station generates the first control bit based on the first data and the second control bit based on both the first data and the second data, and transmits the first control bit to the first communication station more frequently than the second control bit.

24. A communication system according to claim 23, wherein the first control bit is transmitted at intervals of 1.25 ms, while the second control bit is transmitted at intervals of 80 ms.

25. A communication system according to claim 24, wherein the second control bit is transmitted in such a manner that the first control bit is replaced with the second control bit at intervals of 80 ms.

26. A communication system according to claim 25, wherein the second control bit is transmitted in synchronization with a start of a frame of the first data.

27. A communication system according to claim 25, wherein the second control bit is transmitted at a timing corresponding to a portion of a frame other than a header portion or an end portion.

28. A communication system according to claim 15, wherein the second communication station transmits third data and fourth data at a third transmission power level and a fourth transmission

power level, respectively, to the first communication station, and

wherein the first communication station generates a further transmission control information for controlling the third transmission power level and the fourth transmission power level, and the second communication station controls the third transmission power level and the fourth transmission power level independently of each other based on the further transmission power control information from the first communication station.

29. A communication system according to claim 28, wherein the second communication station transmits the transmission power control information to the first communication station in such a manner that the transmission power control information is conveyed with either the third data or the fourth data.

30. A communication system according to claim 29, wherein the first communication station transmits the further transmission power control information for the third data and the fourth data to the second communication station in such a manner that the further transmission power control information is conveyed with either the first data or the second data.

31. A communication system according to claim 30, wherein the second communication station controls a third gain of the third data and a fourth gain of the fourth data independently of each other, thereby controlling the third transmission power level and the fourth transmission power level.

32. A communication system according to claim 31, wherein the further transmission power control information generated by the first communication station includes third and fourth control bits, and

wherein the second communication station changes both the

third gain and the fourth gain based on the third control bit by a third value, and changes either the third gain or the fourth gain by a fourth value based on the fourth control bit.

33. A communication system according to claim 32, wherein the third value is larger than the fourth value.

34. A communication system according to claim 33, wherein the third value is 1 dB and the fourth value is 0.1 dB.

35. A communication system according to claim 34, wherein the further transmission control information is generated in such a manner as to reduce a difference between a third difference between a required received quality and an actual received quality of the third data and a fourth difference between a required received quality an actual received quality of the fourth data.

36. A communication system according to claim 35, wherein the required received quality and the actual received quality of both the third data and the fourth data are represented by a frame error rate.

37. A communication system according to claim 36, wherein the required received quality and the actual received quality of both the third data and the fourth data are represented by a signal-to-noise ratio.

38. A communication system according to claim 37, wherein the first communication station generates the third control bit based on the third data and the fourth control bit based on both the third data and the fourth data, and transmits the third control bit to the second communication station more frequently than the fourth control bit.

39. A communication system according to claim 38, wherein the third control bit is transmitted at intervals of 1.25 ms, while the fourth control bit is transmitted at intervals of 80 ms.

40. A communication system according to claim 39, wherein the fourth control bit is transmitted in such a manner that the third control bit is replaced with the fourth control bit at intervals of 80 ms.

41. A communication system according to claim 40, wherein the fourth control bit is transmitted in synchronization with a start of a frame of the first data.

42. A communication system according to claim 40, wherein the fourth control bit is transmitted at a timing corresponding to a portion of a frame other than a header portion or an end portion.

43. A communication system according to claim 38, wherein both the first data and the third data are message data, and both the second data and the fourth data are control data for the message data.

44. A communication system according to claim 37, wherein both the second data and the fourth data are message data, and both the first data and the third data are control data for the message data.